

[illegible]

The present invention relates to a controlled acoustic waveguide of the type of an elongate hollow chamber (1) which communicates with a sound-transmitting duct (4) via an opening (2) in its first end surface (3), wherein the longitudinal resonances of the hollow chamber (1) may be tuned to a sound spectrum to be attenuated, by detecting the membrane vibrations by means of a microphone (10) located directly in front of the membrane (8) of at least one loudspeaker (9) on the second end surface (6) of said hollow chamber (1), and by inverting the microphone signal by means of an amplifier (11) and by feedback of the inverted microphone signal to said loudspeaker (9) in an amplified form in dependence on a signal from a sensor (12), which is characteristic of the sound in said duct (4).

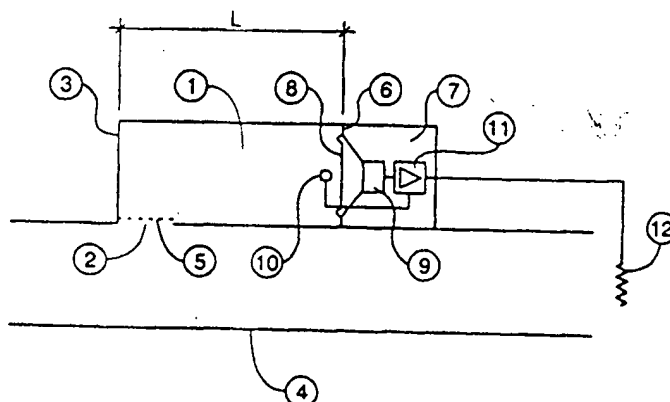
**PCT**  
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(54) Title: **CONTROLLED ACOUSTIC WAVEGUIDE FOR SOUNDPROOFING**

(54) Bezeichnung: **GESTEUERTER AKUSTISCHER WELLENLEITER ZUR SCHALLDÄMPFUNG**



(57) Abstract

The invention relates to a controlled acoustic wave guide configured as an elongated hollow chamber (1) which via an opening (2) in its first face end (3) is connected to a sound-conducting channel (4). The longitudinal resonances of the hollow chamber (1) can be adjusted to a sound spectrum to be dampened. To this end diaphragm vibrations are detected by means of a microphone (10) which is positioned directly in front of the diaphragm (8) of at least one loud-speaker (9) at the second face-end (6) of the hollow chamber (1). The microphone signal is then inverted using an amplifier (11) and fed back to the loud-speaker (9) after amplification in accordance with a sensor (12) signal characterizing the sound spectrum in the channel (4).